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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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STERNE, KESSLER, GOLDSTEIN & FOX PLLC
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

CHEN, TIANJIE

ART UNIT PAPER NUMBER

2627

DATE MAILED: 12/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/753,463

Applicant(s)

FUJIMOTO, YASUO

Examiner

Tianjie Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-16, 18 is/are rejected.
- 7) ☒ Claim(s) 7-9 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Final Rejection

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 13-15, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Takagi et al (US 2001/0008475).

Claim 1, Takagi et al shows a magnetic head suspension in Figs. 1 and 2 including: a flexure 50 ([0046]) having a magnetic head mounting region 52; a load beam portion 31 ([0042]) connected to the flexure and having a dimple 51 ([0046]) at a portion corresponding to the magnetic head mounting region; a load-bent portion 41 ([0042]) generating a load for pressing a magnetic head to a magnetic disk via the load beam portion, the load bent portion being formed by a member separate from a member forming the load beam portion; and a base portion 30 connected to a rear region of the load-bent portion, wherein member forming the load beam portion has a reinforcing structure (the bar at the middle between two voids in Figs. 1 and 2) that is symmetrical as viewed from the above based on a center longitudinal axis line, only in a center region in a longitudinal direction from a rearmost portion at the rear region to the dimple.

Claim 2, Takagi et al shows that the member forming the load beam portion has a longitudinal length L from the rearmost portion to the dimple, and the reinforcing

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structure is provided within a range of $+0.25L$ from a longitudinal center position located at $L/2$ from the rearmost portion.

Claim 3, Takagi et al further shows that the longitudinal length of the reinforcing structure is 0.04 to $0.4L$.

Claims 10-12, Takagi et al's structure can be fabricated by drawing.

A "product by process" claim is directed to the product per se, no matter how actually made, see *In re Hirao*, 190 USPQ 15 at 17 (footnote 3 CCPC, 5/27/76); *In re Brown*, 173 USPQ 685 (CCPA 5/18/72); *In re Luck*, 177 USPQ 523 (CCPA, 4/26/73); *In re Fessmann*, 180 USPQ 324 (CCPA, 1/10/74); *In re Thorpe*, 227 USPQ 964 (CAFC, 11/21/85). The patentability of the final product in a "product by process" claim must be determined by the product itself and not the actual process and an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. In instant case, "drawing" is a process related limitation, earns no weight in determining patentability.

Claims 13-15 and 18; Takagi et al further shows in Figs. 1 and 2 that the member forming the load beam portion includes: a rear region connected to a front region of the load-bent portion; an intermediate region extending from the rear region toward the distal end; and a front region extending from the intermediate region toward the distal end and reaching the magnetic head mounting region; the rear region has: a rear short beam extending along a width direction; and a pair of rear side beams extending from both ends of the rear short beam to the distal end of the load beam portion and inclined toward the distal end of the load beam portion so as to come close to the center longitudinal axis line of the load beam portion, the intermediate region has a pair of intermediate side beams extending from the distal

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end of the pair of rear beams to the distal end of the load beam portion and inclined to be in parallel with the center longitudinal axis line of the load beam portion or inclined toward the distal end of the load beam so as to come close to the center longitudinal axis line of the load beam portion, and the rear beam has an angle of inclination to the center longitudinal axis line of the load beam larger than that of the intermediate side beam.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 10-16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al (US 2003/0193752) in view of Takagi et al.

Claim 1, Takahashi et al shows a magnetic head suspension in Fig. 3A including: a flexure 3 ([0042]) having a magnetic head mounting region; a load beam portion 2 ([0040]) connected to the flexure, and a base portion 30 connected to a rear region of the load-bent portion, the member forming the load beam portion has a reinforcing structure 17 that is symmetrical as viewed from the above based on a center longitudinal axis line, only in a center region in a longitudinal direction from a rearmost portion at the rear region to the distal end.

Takagi et al shows a magnetic head suspension in Figs. 1 and 2, which has a dimple 51 ([0046]) at a portion corresponding to the magnetic head mounting region, a load-bent portion 41 ([0042]) generating a load for pressing a magnetic head to a

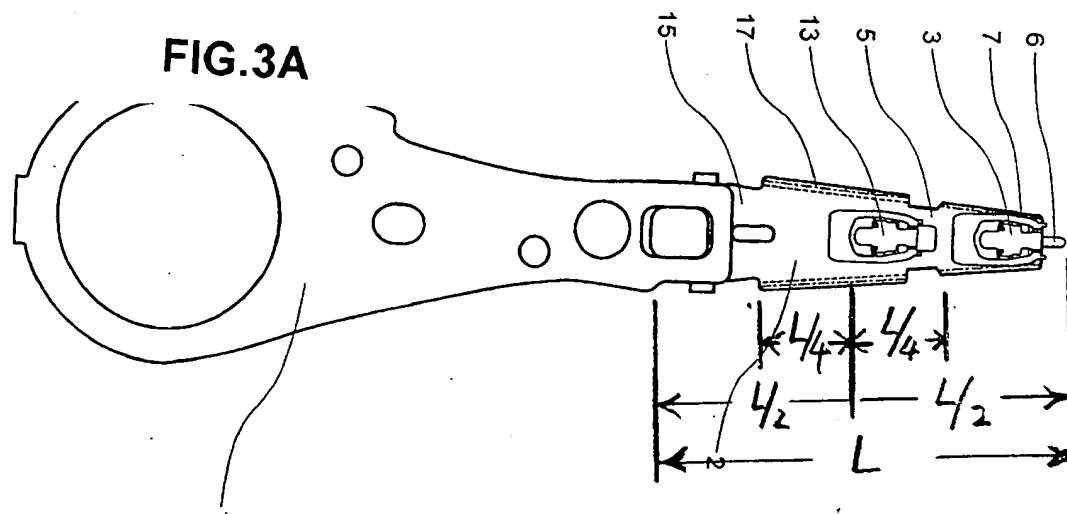
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magnetic disk via the load beam portion, the load-bent portion being formed by a member separate from a member forming the load beam portion.

Takagi et al teaches that using separate load beam bent portion is to obtain the necessary performance for the suspension, therefore suitable materials, thicknesses, etc. may be selected individually for rigid portion and spring portion ([0015]). Furthermore, Takahashi et al does not specify the connection of the flexure and the head-mounting portion. Takagi et al shows a dimple for connecting these two parts and it is also a commonly used structure in the art. One of ordinary skill in the art would have been motivated to apply Takagi et al's beam-bent portion and dimple into Takahashi et al's device in order to obtain higher performance.

Claim 2, Takahashi et al shows that the member forming the load beam portion has a longitudinal length L from the rearmost portion to the dimple, and the reinforcing structure is provided within a range of $+0.25L$ from a longitudinal center position located at $L/2$ from the rearmost portion.

Claim 3, Takahashi et al further shows that the longitudinal length of the reinforcing structure is 0.04 to $0.4L$.



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Claim 4, 5, and 6, Takahashi et al further shows that the reinforcing structure is the form of a flange structure provided at left and right symmetrical external sides of the member forming load beam portion.

Claims 10-12, it is obvious that Takagi et al's structure can be fabricated by drawing.

A "product by process" claim is directed to the product per se, no matter how actually made, see *In re Hirao*, 190 USPQ 15 at 17 (footnote 3 CCPC, 5/27/76); *In re Brown*, 173 USPQ 685 (CCPA 5/18/72); *In re Luck*, 177 USPQ 523 (CCPA, 4/26/73); *In re Fessmann*, 180 USPQ 324 (CCPA, 1/10/74); *In re Thorpe*, 227 USPQ 964 (CAFC, 11/21/85). The patentability of the final product in a "product by process" claim must be determined by the product itself and not the actual process and an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. In instant case, "drawing" is a process related limitation, earns no weight in determining patentability.

Claims 13-16 and 18; Takagi et al further shows in Figs. 1 and 2 that the member forming the load beam portion includes: a rear region connected to a front region of the load-bent portion; an intermediate region extending from the rear region toward the distal end; and a front region extending from the intermediate region toward the distal end and reaching the magnetic head mounting region; the rear region has: a rear short beam extending along a width direction; and a pair of rear side beams extending from both ends of the rear short beam to the distal end of the load beam portion and inclined toward the distal end of the load beam portion so as to come close to the center longitudinal axis line of the load beam portion, the intermediate region has a pair of intermediate side beams extending from the distal

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end of the pair of rear beams to the distal end of the load beam portion and inclined to be in parallel with the center longitudinal axis line of the load beam portion or inclined toward the distal end of the load beam so as to come close to the center longitudinal axis line of the load beam portion, and the rear beam has an angle of inclination to the center longitudinal axis line of the load beam larger than that of the intermediate side beam.

Takagi et al teaches that by using this structure the load beam is reduced in weight, and its frequency and vibration characteristics are improved ([0019]). One of ordinary skill in the art would have been motivated to apply Takagi et al's structure to Takahashi et al's device in order to reduce weight and improve frequency characteristics.

Allowable Subject Matter

3. Claims 7-9 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

- With regard to claim 7; as the closest reference of record, Takagi et al (US 2001/0008475) shows a magnetic head suspension including: a flexure having a magnetic head mounting region; a load beam portion connected to the flexure and having a dimple at a portion corresponding to the magnetic head mounting region; a load-bent portion generating a load for pressing a magnetic head to a magnetic disk via the load beam portion, the load bent portion being formed by a member separate from a member forming the load beam portion; and a base portion

connected to a rear region of the load-bent portion, wherein member forming the load beam portion has a reinforcing structure that is symmetrical as viewed from the above based on a center longitudinal axis line, only in a center region in a longitudinal direction from a rearmost portion at the rear region to the dimple; and the member forming the load beam portion has a hollow opening; **but fails to show** that the reinforcing structure is the form of a **flange structure** provided at left and right symmetrical internal sides of the member forming the load beam portion, the internal sides defining the hollow opening.

- With regard to claims 8, and 9; as the closest reference, the combination of Takahashi et al (US 2003/0193752) and Takagi et al (US 2001/0008475) shows a magnetic head suspension including: a flexure having a magnetic head mounting region; a load beam portion connected to the flexure and having a dimple at a portion corresponding to the magnetic head mounting region; a load-bent portion generating a load for pressing a magnetic head to a magnetic disk via the load beam portion, the load bent portion being formed by a member separate from a member forming the load beam portion; and a base portion connected to a rear region of the load-bent portion, wherein member forming the load beam portion has a reinforcing structure that is symmetrical as viewed from the above based on a center longitudinal axis line, only in a center region in a longitudinal direction from a rearmost portion at the rear region to the dimple; and the member forming the load beam portion has a hollow opening, the reinforcing structure is the form of a flange structure; but fails to show that the flange structure is provided at left and right symmetrical **internal** sides of the member forming the load beam portion, the internal sides defining the hollow opening.

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- Applicant asserts "It is an object of the present invention to provide a magnetic head suspension that can increase the resonance frequency in the torsion mode and/or the bending mode, by improving the rigidity of a load beam while suppressing the increase in the mass" (Specification [0009]).

Response to Arguments

4. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is 571-272-7570. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


TIANJIE CHEN
PRIMARY EXAMINER